Overview of the Information Handling Facilities Concern

1. The Dynamics of the Agency's IHS Environment

In spite of the fact that the personnel dedicated to IHS services in the Agency have actually been declining, the volume and variety of services have been steadily growing. In fact, the growth has generally been exponential over the past few years, and the compound percentage rates have been high.

Figures 1 and 2 show the Agency message traffic carried by the Office of Communications. As can be seen, the growth approximates exponential. The correlations of the data with exponential regression curves are good, and the growth rate is 10.8 percent per year for narrative traffic and 28.1 percent per year for data. These data reflect the urgent need for the new technology embodied in the MERCURY project, because the capacity growth capability of the current technology has been exhausted.

In the area of data processing, there has been a similar service growth. Figure 3 shows that the number of logged users on ODP's VM service has grown at a steadily exponential rate for the past four years. Since the VM service supports real time transactions, its growth reflects that in office automation functions. A similar story is told in the area of batch processing. Figure 4 shows the daily computer time required for batch for 1980 and 1981; earlier data was not available. Even so, the data correlates well with a regression curve reflecting an exponential growth of 18.5 percent per year.

A comparable history obtains for on-line storage. Figure 5 shows the growth in such data, both in megabytes of on-line storage and in the associated direct access storage devices (DASD). Although the data is much less frequent--annual, rather than the monthly data available for VM--the same exponential growth patterns is evident. In this case, the storage growth rate is 20.2 percent per year: a value comparable to VM growth.

Because there are strong indications of greatly increased intent to use IHS services, these growth rates probably have to be considered a base in projecting what the demand might be in the near future. The recent spurt in terminal acquisitions and requests, is detailed in the Terminals paper, exceeds a 20 percent per year growth rate. There has, in fact, been what might be considered an "explosion" in demand. Terminals, whether word processors, data terminals, or special purpose units, are the system access devices for the IHSs. It is reasonable to expect, therefore, that future demands for communications and data processing services correlate strongly with the number of terminals.

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